We claim:

1. An explosives-based system for deslagging a hot online heat-exchange device (31), comprising:

an explosive device (101);

at least one cooling apparatus (104) cooling said explosive device (101) by gas, insulating or casing cooling means, particularly while said explosive device (101) is at any desired location within said hot online heat exchange device (31), thereby preventing heat from said hot online heat exchange device (31) from detonating said explosive device (101) prior to a time when it is desired to detonate at will said explosive device (101);

a cooling apparatus and explosive positioning system (12, 106, 112) with said at least one cooling apparatus (104) and said explosive device (101) cooled thereby affixed thereto (12, 106, 112), enabling a force applied to said cooling apparatus and explosive positioning system (12, 106, 112) to freely move said at least one cooling apparatus (104) and said explosive device (101) cooled thereby to said any desired location within said hot online heat exchange device (31) and particularly into a proper position for deslagging, while cooling said explosive device (101); and

detonating means for detonating at will said explosive device (101).

2. The system of claim 1, said at least one cooling apparatus comprising:

a coolant-delivery apparatus (12, 106) delivering a gas coolant to said explosive device, said coolant so-cooling said explosive device (101).

3. The system of claim 2, said gas coolant comprising air.

4. The system of claim 2, said coolant-delivery apparatus comprising a semipermeable (105) cooling envelope, thereby enabling said gas coolant to flow continuously into, through, and out of said cooling envelope (104) and so-cool said explosive device (101).

5. The system of claim 2, said coolant-delivery apparatus comprising a cooling envelope (104) further comprising a release valve (130), thereby enabling said gas coolant to flow continuously into, through, and out of said cooling envelope (104) and so-cool said explosive device (101).

6. The system of claim 1, said at least one cooling apparatus comprising at least one cooling envelope in turn comprising an insulating one of said cooling envelopes (104) comprising:

an outer insulating layer (502) comprising at least one layer of at least one heat insulating material insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby preventing from overheating, and so-cooling, said explosive device (101).

7. The system of claim 6, said insulating one of said cooling envelopes (104) further comprising:

an inner insulating layer (504) comprising at least one heat-reflective material further

insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), by reflecting any heat penetrating said outer insulating layer (502) away from said explosive device (101).

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8. The system of claim 7, further comprising:

non-flammable bulk fiber insulation (506) within said insulating one of said cooling envelopes (104), further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101).

25. 21
9. The system of claim 7, further comprising:

non-flammable bulk fiber insulation (506) within said insulating one of said cooling envelopes (104) further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101).

29. 20
10. The system of claim 6, said at least one layer of said at least one heat insulating material selected from the heat insulator group consisting of:

treated and untreated: silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

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11. The system of claim 7, said at least one heat-reflective material selected from the heat-reflective material group consisting of:

treated and untreated: aluminized cloth; silica cloth; fiberglass cloth; ceramic cloth; and stainless steel cloth.

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12. The system of claim 8, said non-flammable bulk fiber insulation (506) comprising at least one heat insulating material selected from the heat insulator group consisting of:

treated and untreated: amorphous silica fiber; silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

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13. The system of claim 1, said at least one cooling apparatus comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an



AMENDED SHEET

outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

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14. The system of claim 13, further comprising a non-heat-resistant explosive casing (608) encasing said explosive material (606), wherein said non-heat-resistant explosive casing (608) and said explosive material (606) therein is encased within said heat-resistant explosive casing (602).

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15. The system of claim 13, said heat-resistant explosive casing (602) comprising at least one layer of at least one heat insulating material selected from the heat insulator group consisting of:

treated and untreated: silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

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16. The system of claim 2, said at least one cooling apparatus further comprising at least one cooling envelope further comprising an insulating one of said cooling envelopes (104), said insulating one of said cooling envelopes (104) comprising:

an outer insulating layer (502) comprising at least one layer of at least one heat insulating material insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby preventing from overheating, and so-cooling, said explosive device (101).

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17. The system of claim 16, said insulating one of said cooling envelopes (104) further comprising:

an inner insulating layer (504) comprising at least one heat-reflective material further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), by reflecting any heat penetrating said outer insulating layer (502) away from said explosive device (101).

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18. The system of claim 16, further comprising:

non-flammable bulk fiber insulation (506) within said insulating one of said cooling envelopes (104) further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101).

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19. The system of claim 17, further comprising:

non-flammable bulk fiber insulation (506) within said insulating one of said cooling envelopes (104) further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said

AMENDED SHEET

explosive device (101).

20. The system of claim 2, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

21. The system of claim 6, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

22. The system of claim 7, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

23. The system of claim 8, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from



AMENDED SHEET

overheating by said heat-resistant explosive casing (602).

24. The system of claim 9, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

25. The system of claim 16, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

26. The system of claim 17, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

27. The system of claim 18, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).



AMENDED SHEET

28. The system of claim 19, said at least one cooling envelope comprising a casing one of said cooling envelopes, said explosive device (101) further comprising:

a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

29. A heat-resistant explosive device (101) to facilitate controlled explosive detonation in a hot surrounding environment, comprising:

a heat-resistant explosive casing (602) comprising a casing one of said cooling envelopes (104), and further comprising a detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602) to provide suitable heat insulation to a detonator cap (102) placed within said detonator well (604); and

explosive material (606) encased within, and thereby insulated and prevented from overheating by said heat-resistant explosive casing (602).

30. The heat-resistant explosive device (101) of claim 29, said heat-resistant explosive casing (602) comprising at least one layer of at least one heat insulating material selected from the heat insulator group consisting of:

treated and untreated silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

31. The heat-resistant explosive device (101) of claim 29, further comprising a non-heat-resistant explosive casing (608) encasing said explosive material (606), wherein said non-heat-resistant explosive casing (608) and said explosive material (606) therein is encased within said heat-resistant explosive casing (602).

32. A method for deslagging a hot, online heat-exchange device (31), comprising the steps of:

cooling an explosive device (101) by gas, insulating or casing cooling means, particularly while said explosive device (101) is at any desired location within said hot online heat exchange device (31), thereby preventing heat from said hot online heat exchange device (31) from detonating said explosive device (101) prior to a time when it is desired to detonate at will said explosive device (101);

affixing said at least one cooling apparatus (104) and said explosive device (101) cooled

thereby to a cooling apparatus and explosive positioning system (12, 106, 112);

applying a force to said cooling apparatus and explosive positioning system (12, 106, 112) and thereby freely moving said at least one cooling apparatus (104) and said explosive device (101) cooled thereby to said any desired location within said hot online heat exchange device (31) and particularly into a proper position for deslagging, while cooling said explosive device (101); and

detonating at will said explosive device (101).

40 39
33. The method of claim 32, further comprising the step of:

delivering a gas coolant to said explosive device, said coolant so-cooling said explosive device (101), using a coolant-delivery apparatus (12, 106).

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34. The method of claim 33, said gas coolant comprising air.

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35. The method of claim 33, said coolant-delivery apparatus comprising a semipermeable cooling envelope, further comprising the step of:

flowing said gas coolant continuously into, through, and out of said cooling envelope (104) and so-cooling said explosive device (101).

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36. The method of claim 33, said coolant-delivery apparatus comprising a cooling envelope, further comprising the step of:

flowing said gas coolant continuously into, through, and out of said cooling envelope (104) and so-cooling said explosive device (101), using a release valve (130) of said cooling envelope (104).

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37. The method of claim 32, said at least one cooling apparatus comprising at least one cooling envelope in turn comprising an insulating one of said cooling envelopes, further comprising the step of:

insulating, said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby preventing from overheating, and so-cooling, said explosive device (101), using an outer insulating layer (502) of said insulating one of said cooling envelopes (104) comprising at least one layer of at least one heat insulating material.

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38. The method of claim 37, further comprising the step of:

further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), by reflecting any heat penetrating said outer insulating layer (502) away from said explosive device (101), using an inner insulating layer (504) of said insulating one of said cooling envelopes (104) comprising at least one heat-reflective material.

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39. The method of claim 37, further comprising the step of:

AMENDED SHEET

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further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), using non-flammable bulk fiber insulation (506) within said insulating one of said cooling envelopes (104) .

51 50
~~40~~. The method of claim ~~38~~, further comprising the step of:

further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), using non-flammable bulk fiber insulation (506) within said insulating one of said cooling envelopes (104) .

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~~41~~. The method of claim ~~37~~, further comprising the step of selecting said at least one layer of said at least one heat insulating material from the heat insulator group consisting of:

treated and untreated: silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

53 50
~~42~~. The method of claim ~~38~~, further comprising the step of selecting said at least one heat-reflective material from the heat-reflective material group consisting of:

treated and untreated: aluminized cloth; silica cloth; fiberglass cloth; ceramic cloth; and stainless steel cloth.

54 55
~~43~~. The method of claim ~~39~~, said non-flammable bulk fiber insulation (506) comprising at least one heat insulating material, further comprising the step of selecting said at least one heat insulating material from the heat insulator group consisting of:

treated and untreated: amorphous silica fiber; silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

60 39
~~44~~. The method of claim ~~32~~, said at least one cooling apparatus comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and

preventing from overheating, said detonator cap (102).

61 45. The method of claim 60 44, comprising the further steps of:

encasing said explosive material (606) in a non-heat-resistant explosive casing (608); and encasing said non-heat-resistant explosive casing (608) and said explosive material (606) therein within said heat-resistant explosive casing (602).

62 46. The method of claim 60 44, comprising the further step of selecting at least one layer of at least one heat insulating material of said heat-resistant explosive casing (602) from the heat insulator group consisting of:

treated and untreated: silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

63 47. The method of claim 40 33, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising an insulating one of said cooling envelopes, further comprising the step of:

insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby preventing from overheating, and so-cooling, said explosive device (101), using an outer insulating layer (502) of said insulating one of said cooling envelopes (104) comprising at least one layer of at least one heat insulating material.

64 48. The method of claim 63 47, further comprising the step of:

further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), by reflecting any heat penetrating said outer insulating layer (502) away from said explosive device (101), using an inner insulating layer (504) of said insulating one of said cooling envelopes (104) comprising at least one heat-reflective material.

63 68 49. The method of claim 47, further comprising the step of:

further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), using non-flammable bulk fiber insulation (506) within said insulating one of said cooling envelopes (104).

64 65 50. The method of claim 48, further comprising the step of:

further insulating said explosive device (101) from said heat from said hot online heat exchange device (31), and thereby further preventing from overheating, and so-cooling, said explosive device (101), using non-flammable bulk fiber insulation (506) within said insulating

one of said cooling envelopes (104).

51. The method of claim 33, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

52. The method of claim 37, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

53. The method of claim 38, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

54. The method of claim 39, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further

steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

55. The method of claim 40, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

56. The method of claim 47, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

57. The method of claim 48, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and

AMENDED SHEET

preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

58. The method of claim 49, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

59. The method of claim 50, said at least one cooling apparatus further comprising at least one cooling envelope in turn comprising a casing one of said cooling envelopes, comprising the further steps of providing said explosive device (101) by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising said casing one of said cooling envelopes (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

60. A method for facilitating controlled explosive detonation in a hot surrounding environment, comprising the steps of providing a heat-resistant explosive device (101) for said controlled explosive detonation by:

encasing an explosive material (606) within a heat-resistant explosive casing (602) comprising a casing cooling envelope (104), and thereby insulating and preventing from overheating, said explosive material (606); and

placing a detonator cap (102) within a detonator well (604) of said heat-resistant explosive casing (602), said detonator well (604) sufficiently removed from an outside surface



AMENDED SHEET

of said explosive device (101) and said explosive casing (602), thereby suitably insulating and preventing from overheating, said detonator cap (102).

61. The method of claim 60, comprising the further steps of:

encasing said explosive material (606) in a non-heat-resistant explosive casing (608); and

encasing said non-heat-resistant explosive casing (608) and said explosive material (606) therein within said heat-resistant explosive casing (602).

62. The method of claim 61, comprising the further step of selecting at least one layer of at least one heat insulating material of said heat-resistant explosive casing (602) from the heat insulator group consisting of:

treated and untreated: silica cloth; aluminized silica cloth; silicone coated silica cloth; fiberglass cloth; silicone impregnated fiberglass fabric; vermiculite coated fiberglass; neoprene coated fiberglass; ceramic cloth; and knitted silica glass.

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63. The system of claim 1, wherein said explosive device is substantially fixed relative to said cooling apparatus.

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64. The system of claim 2, wherein said explosive device is substantially fixed relative to said cooling apparatus.

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65. The system of claim 1, wherein said any desired location within said hot online heat exchange device comprises a furnace region of said hot online heat exchange device.

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66. The system of claim 1, wherein said any desired location within said hot online heat exchange device comprises a region other than a furnace region of said hot online heat exchange device.

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67. The system of claim 1, wherein said any desired location within said hot online heat exchange device is proximate the heat of a furnace of said hot online heat exchange device.

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68. The system of claim 1, wherein said any desired location within said hot online heat exchange device is not proximate the heat of a furnace of said hot online heat exchange device.

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69. The system of claim 2, wherein said any desired location within said hot online heat exchange device comprises a furnace region of said hot online heat exchange device.

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70. The system of claim 2, wherein said any desired location within said hot online heat exchange device comprises a region other than a furnace region of said hot online heat exchange device.

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71. The system of claim 2, wherein said any desired location within said hot online heat exchange device is proximate the heat of a furnace of said hot online heat exchange device.

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72. The system of claim 2, wherein said any desired location within said hot online heat

AMENDED SHEET

exchange device is not proximate the heat of a furnace of said hot online heat exchange device.

73. The method of claim 32, wherein said explosive device is substantially fixed relative to said cooling apparatus.

74. The method of claim 33, wherein said explosive device is substantially fixed relative to said cooling apparatus.

75. The method of claim 32, wherein said any desired location within said hot online heat exchange device comprises a furnace region of said hot online heat exchange device.

76. The method of claim 32, wherein said any desired location within said hot online heat exchange device comprises a region other than a furnace region of said hot online heat exchange device.

77. The method of claim 32, wherein said any desired location within said hot online heat exchange device is proximate the heat of a furnace of said hot online heat exchange device.

78. The method of claim 32, wherein said any desired location within said hot online heat exchange device is not proximate the heat of a furnace of said hot online heat exchange device.

79. The method of claim 33, wherein said any desired location within said hot online heat exchange device comprises a furnace region of said hot online heat exchange device.

80. The method of claim 33, wherein said any desired location within said hot online heat exchange device comprises a region other than a furnace region of said hot online heat exchange device.

81. The method of claim 33, wherein said any desired location within said hot online heat exchange device is proximate the heat of a furnace of said hot online heat exchange device.

82. The method of claim 33, wherein said any desired location within said hot online heat exchange device is not proximate the heat of a furnace of said hot online heat exchange device.